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REMARKS/ARGUMENTS

Applicant graciously appreciates the Office's attention to the instant application. Applicant appreciates the Office's participation in a brief telephonic conference of May 17, 2006 where Applicant summarized the arguments and the TPV-50 article, indicating that it would be submitted as evidence of nonobviousness in a Declaration under 37 CFR §1.132. The Office agreed to call Applicant prior to issuing any further Office Action in this matter.

In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the pending claims of the instant application. This response is believed to be fully responsive to all issues raised in the February 22, 2006 Office Action. Claims 1-33, 35-39, 50-62, 64-70, 72-73, 79 and 80 are pending.

Arguments

Below, Applicant argues (1) that the Office has not established a prima facie case of obviousness and (2) that if the Office has established a prima facie case of obviousness, then the evidence submitted under 37 CFR §1.132 is sufficient to overcome this prima facie case. By submitting this evidence of nonobviousness, Applicant does not waive its argument that the Office has failed to establish a prima facie case.

Declaration under 37 CFR §1.132: TPV-50 Article

In the previous response, Applicant submitted for the Office's consideration, a non-prior art article entitled "High-Definition Movies from Your

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1 PC”, by Megenity, The Perfect Vision, Vol. 50, September/October 2003, pp. 40,
2 42 and 44 (referred to as the TPV-50 article). For convenience, Applicant also
3 includes the cover page and the table of contents for the September/October 2003
4 issue of The Perfect Vision. Applicant now enters this article into the record as
5 evidence of nonobviousness under 37 CFR §1.132 (see MPEP §716).

6 *Timely Filed*

7 Per MPEP §716.01(A), submission of evidence under §1.132 must be
8 “timely or seasonably filed”. Such evidence is considered timely if submitted
9 prior to a final rejection (MPEP §716.01(A)(1)). Hence, Applicant submits the
10 Declaration for the TPV-50 article is timely.

11 *Evidence Must Be Considered*

12 Per MPEP §716.01(B), evidence traversing rejections, when timely
13 presented, must be considered by the examiner whenever present. Further, per
14 MPEP §716.01(a), “[e]xaminers must consider comparative data in the
15 specification which is intended to illustrate the claimed invention in reaching a
16 conclusion with regard to the obviousness of the claims”.

17 *TPV-50 Article is Evidence of Nonobviousness*

18 The TPV-50 article includes evidence of unexpected results and failure of
19 others. These factors are relevant to the issue of obviousness and must be
20 considered in every case in which they are present (MPEP §716.01(a)).

21 *Nexus Exists Between TPV-50 Article and Claims*

22 Per MPEP §716.01(b), for evidence of nonobviousness to be of probative
23 value, “the secondary evidence must be related to the claimed invention” and “the
24 Examiner must determine whether there is a nexus between the merits of the
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1 claimed invention and the evidence of secondary considerations". Below,
2 Applicant explains the nexus between claims and the TPV-50 article.

3 *Examiner Must Consider Entire Record*

4 Per MPEP §716.01(d), "when an applicant timely submits evidence
5 traversing a rejection, the examiner must reconsider the patentability of the
6 claimed invention" and the "ultimate determination of patentability must be based
7 on consideration of the entire record, by a preponderance of evidence, with due
8 consideration to the persuasiveness of any arguments and any secondary
9 evidence". Further, "[i]f, after evaluating the evidence, the examiner is still not
10 convinced that the claimed invention is patentable, the next Office action should
11 include a statement to that effect and identify the reason(s)".

12 Prior Responses: Totality of the Record

13 In the Response to the Office Action of 10/21/04, Applicant amended
14 various claims to recite processing to remove blockiness. While the instant
15 specification is full of examples and comparisons with the MPEG-2 codec,
16 Applicant hopes that the TPV-50 article helps to offer further clarification as to
17 differences between the instant subject matter and the MPEG-2 standard.

18 Applicant also directs the Office to the "MPEG Background" section of
19 USPN 6606746 to Zdepksi (col. 1, line 60 to col. 2, line 39) and to the "MPEG
20 Background" section of USPN 6507672 to Watkins (col. 2, line 1 to col. 5, line
21 64). Applicant submits that such information sheds light on encoding and
22 decoding blocks of MPEG-2, which are at the root of issues related to blockiness.
23 In turn, such issues limit usefulness of the MPEG-2 codec (e.g., quality,
24 compression limits, etc.).
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Rejection of Claims under 35 U.S.C. §103(a)

The Office relies on USPN 6864913 to Tarnoff et al. (Tarnoff), USPN 6606746 to Zdepski et al. (Zdepski), USPN 6996184 to Hamamatsu et al. (Hamamatsu), USPN 6507672 to Watkins et al. (Watkins), USPN 6801576 to Haldeman et al. (Haldeman), and USPN 6631205 to Melen et al. (Melen) to make the following §103 rejections:

(i) Claims 1-11, 20 based on Tarnoff in view of Zdepski and further in view of Hamamatsu;

(ii) Claims 12-16, 19, 21-33, 35-39, 50-51, 64-70, 73, 79-80 based on Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Watkins;

(iii) Claims 17 and 18 based on Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Haldeman; and

(iv) Claim 72 based on Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Melen.

All of these §103 rejections rely on the combination of Tarnoff, Zdepski and Hamamatsu. Obviousness under §103 requires (i) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (ii) a reasonable expectation of success; and (iii) that the prior art reference (or references when combined) must teach or suggest all the claim limitations, see MPEP §2143. As explained below, Applicant respectfully submits that the combination of Tarnoff, Zdepski and Hamamatsu does not render the claimed subject matter obvious.

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Alternatively, Applicant submits that should the rejections be maintained, then the TPV-50 article, as evidence of nonobviousness, is sufficient to overcome the Office's prima facie case of obviousness.

Claims 1-11, and 20

Claim 1 recites:

converting an analog 35 mm or 16 mm film of duration greater than 1 hour to digital video data with a frame rate of approximately 24 frames per second and one pixel or line resolution of at least approximately 1280; storing the digital video data to a storage using an audio video interleaved file format; receiving the digital video data from the storage; compressing the received digital video data to produce compressed digital video using an average compression ratio of at least approximately 50:1 amenable to subsequent decompression using processing to remove blockiness; and transmitting the compressed digital video data via a network.

No Prima Facie Case: Blockiness versus "Mosquito Noise"

Claim 1 recites "*compressing the received digital video data to produce compressed digital video . . . amenable to subsequent decompression using processing to remove blockiness.*"

Blockiness is due to block-based encoding and appears at the boundaries of adjacent blocks. Often blockiness appears as a checkerboard pattern. Applicant

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1 asserts that the Hamamatsu reference does not disclose, teach or suggest the
2 recited "*compressing . . . amenable to subsequent decompression using processing*
3 *to remove blockiness*".

4 In the pending Office Action, the Office relies on the Hamamatsu reference
5 (citing col. 1, lines 36-37 and col. 8, lines 4-13) as disclosing the recited
6 "*subsequent decompression using processing to remove blockiness*". At col. 1,
7 lines 28-38, the Hamamatsu reference describes "mosquito noise":

8 [A]n MPEG method is often used in which data-compression coding is
9 performed by executing a discrete cosine transform and then restricting the
10 high frequency components. Since data compression is performed using
11 the frequency transformation and lossy compression in which the high
12 frequency components are restricted, noise occurs, so-called "mosquito
13 noise", which is a change in the level of the luminance component and the
14 chrominance component that are in the proximity of a high-contrast edge
15 or a moving object. The mosquito noise degrades the quality of the
16 restored image.

17 At col. 8, lines 4-13, the Hamamatsu reference describes use of a "mosquito
18 noise" filter 36:

19 The image data processing apparatus having the construction shown in
20 FIG. 8 causes the noise detecting unit 35 to precisely detect a part having
21 the mosquito noise and then causes the noise reducing filter 36 to perform
22 filtering processing on only the part having the mosquito noise based on
23 the detection result. Therefore, when the image data having no mosquito
24 noise is input from the input terminal 31, the noise-reducing filter 36 does
25 not perform filtering processing, which does not degrade the quality of the
image data.

Thus, the Hamamatsu reference addresses problems associated with
mosquito noise. Mosquito noise stems from edges in an image. Lossy
compression can produce noise on edges and such noise can be displaced into
nearby flat areas. When displayed, the noise appears as flickering pixels (i.e.,
mosquitoes). The Alliance for Telecommunications Industry Solutions (ATIS)
Committee T1A1 provides a definition for "mosquito noise" in the Telecom

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1 Glossary 2K (www.atis.org/tg2k/_mosquito_noise.html), which includes a sample
2 video that shows mosquito noise at the edge between a speaker's head and a
3 background screen. The ATIS definition is the same as Federal Standard 1037C
4 (Telecom Glossary 2000).

5 For the foregoing reasons, Applicant submits that claim 1 is patentable over
6 Tarnoff in view of Zdepski and further in view of Hamamatsu. Claims 2-11 and
7 20 depend on claim 1 and are believed patentable for at least this reason.

8
9 *Secondary Considerations: TPV-50 Article*

10 If the Office maintains that it has established a prima facie case of
11 obviousness, then Applicant asserts that the evidence submitted under 37 CFR
12 §1.132 is sufficient to overcome this prima facie case.

13
14 *Claim Viewed as a Whole*

15 According to MPEP §2141.02, the claimed subject matter should be
16 considered as a whole. Claim 1 recites "*converting an analog 35 mm or 16 mm*
17 *film of duration greater than 1 hour to digital video data with a frame rate of*
18 *approximately 24 frames per second and one pixel or line resolution of at least*
19 *approximately 1280*". Such converting is typically performed using a telecine (see
20 Specification at page 14, lines 24-25). Applicant notes that the recited duration
21 and frame rate encompass durations and frame rates of conventional "motion
22 picture" industry films. Applicant further notes that the converting converts the
23 analog film to a relatively high resolution, i.e., "*one pixel or line resolution of at*
24 *least approximately 1280*". Applicant believes that the Office has not given
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1 patentable weight to this converting and how the converting relates to the
2 compressing and transmitting, which can achieve a result better than the MPEG-2
3 standard. As stated in the last response, for a variety of reasons, the MPEG-2
4 standard is inadequate for compression and decompression of video where, for
5 example, one pixel or line resolution is of at least approximately 1280, as recited
6 in claim 1.

8 Nexus Between TPV-50 Article and Claim 1

9 A nexus exists between the TPV-50 article and the subject matter of claim

10 1. With respect to the recited converting, Applicant refers the Office to the TPV-
11 50 article at page 44:

12 But the saving grace was yet to come: Microsoft's "Do Amazing Things"
13 DVD-ROM, available for only the cost of shipping, features three short
14 HD featurettes from bmwfilms.com. As soon as I began watching The
15 Hostage, I realized that my disappointment in the first two discs' video
16 quality was not due to the WM9 HD format itself, but rather the source
17 material and mastering. This movie, and the two others from
18 bwmfilms.com, looked incredible. Everything was done right on them—it
19 was evident they were shot well, telecined with care, and encoded
20 carefully. The image sharpness was impressive, compared to what I had
21 seen previously. Detail, color, and three-dimensionality were on par with
22 the better HD movie transfers on HBO, although still not as good as the
23 best HD broadcasts or movies. The blockiness that I expected from the
24 low bit-rate was almost completely absent. These short films show that the
25 WM9 HD format has incredible promise. At a resolution of 1280x720p,
these movies are only encoded at 5.7Mbs—the same as an average DVD!
Amazing.

21 Applicant specifically refers the Office to the statement: "Everything was
22 done right on them—it was evident they were shot well, telecined with care, and
23 encoded carefully". This evidence is relevant to the recited converting of claim 1;
24 noting that claim 11 recites "*wherein the converting uses a telecine*".

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1 With respect to the blockiness, Applicant refers the Office to the following
2 evidence:

3 If you've ever seen a DVD with a fast action sequence in which the image
4 suddenly becomes very blocky, that's a sign that the data rate used at that
5 moment wasn't high enough to show all the detail in the fast motion (this
6 artifact is called macroblocking).

7 TPV-50 Article at page 42.

8 At about 15 minutes into the movie [Terminator 2] there are several shots
9 inside Sarah Connor's cell. The fine color shadings of the cell walls
10 revealed a lot of blockiness from the MPEG-2 encoding on the DVD
11 version; this blockiness was completely absent on the WM9 HD version.
12 So while WM9 wasn't incredibly sharp, at least my concerns about artifact
13 problems from the low bit-rate were put to rest.

14 TPV-50 Article at page 44.

15 This evidence is relevant to the recited compressing of claim 1. This
16 evidence is also relevant to the recited converting as the movie Terminator 2 is a
17 full-length feature film.

18 Statements: Unexpected Results and Failure of Others

19 The evidence demonstrates that the author of the TPV-50 article had
20 concerns (skepticism) about artifact problems from the low bit-rate (i.e., high
21 compression ratio). However, for the full length feature film Terminator 2:
22 Extreme Edition, upon viewing, blockiness "was completely absent on the WM9
23 HD version", which put to rest the author's concerns. In another instance for three
24 films packaged on a DVD-ROM, the author noted that the blockiness "was almost
25 completely absent". Applicant notes that per MPEP §716.02(a), "[a]bsence of

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1 property which a claimed invention would have been expected to possess based on
2 the teachings of the prior art is evidence of unobviousness”.

3 With respect to failure of others, Applicant refers the Office to the
4 following statement:

5 In order of ascending video quality, the results went like this: original
6 DVD, “Extreme Edition” DVD, D-VHS, and WM9 hi-def version. While
7 the remastered DVD looked good, with little noise, it was still a bit soft in
8 most scenes. The D-VHS version of this movie was not a good example of
9 hi-def; it’s one of the softer transfers that I’ve seen. The WM9 hi-def
10 version was both sharper and cleaner than D-VHS and both DVD
11 versions. It wasn’t as sharp as the better HD movie transfers, but it was
12 definitely the best version of the film that I’ve seen. Amazingly, my DVD
13 software player showed a bit-rate for the remastered standard-def DVD of
14 9.8Mbs, which is higher than the bit-rate of the hi-def version!

15 TPV-50 Article at page 42.

16 This evidence demonstrates that the “Extreme Edition” DVD was of lesser
17 quality than the WM9 hi-def version. In other words, others had failed to produce
18 as good of quality video even though they used a higher bit-rate: “Amazingly, my
19 DVD software player showed a bit-rate for the remastered standard-def DVD of
20 9.8Mbs, which is higher than the bit-rate of the hi-def version!”

21 Evidence Overcomes Obviousness Rejection

22 Based on the foregoing reasons, Applicant submits that the evidence
23 supports a finding that the subject matter of claim 1 is nonobvious and patentable
24 over Tarnoff in view of Zdepski and further in view of Hamamatsu. Applicant
25 further submits that this evidence should be considered in the instance the Office
sets forth any new grounds of rejection.

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Claims 12-16, 19, 21-33, 35-39, 50-51, 64-70, 73, 79-80

The Office rejected claims 12-16, 19, 21-33, 35-39, 50-51, 64-70, 73, 79-80 based on Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Watkins.

Claims 12-16, 19, 21-33, and 35-39 depend on claim 1 and claims 79 and 80 recite some subject matter of claim 1 (e.g., processing to remove blockiness). Applicant refers the Office to the foregoing arguments for claim 1, in particular, the “blockiness versus mosquito noise” and “secondary considerations” arguments. For at least these reasons, Applicant submits that claims 12-16, 19, 21-33, 35-39 and 79 and 80 are patentable over Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Watkins.

Claims 51, 64-70, 73 depend on claim 50. Claim 50 recites:

A method of processing video data comprising:

receiving compressed digital video data via a network interface wherein the compressed digital video data has an average compression ratio of at least approximately 50:1;

decompressing the compressed digital video data using a software decoder and processing to remove blockiness to produce decompressed digital video; and

displaying the decompressed digital video data with one pixel or line resolution of at least 1280.

Applicant asserts that claim 50 is patentable over Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Watkins. In particular, the Hamamatsu reference does not disclose the recited “processing to

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1 *remove blockiness*". Further, the MPEG decoder 22 of the Hamamatsu reference
2 appears to be a hardware decoder. In contrast, claim 50 recites a "*software*
3 *decoder*".

4 Applicant further asserts that if the Office maintains the obviousness
5 rejection, then the TPV-50 article is sufficient to overcome the prima facie case of
6 obviousness. While claim 50 does not recite various subject matter of claim 1, it
7 does recite processing to remove blockiness and displaying at a high resolution,
8 for which a nexus to the TPV-50 article exists.

9
10 Claims 17 and 18

11 The Office rejected claims 17 and 18 based on Tarnoff in view of Zdepski,
12 further in view of Hamamatsu and further in view of Haldeman. As claims 17 and
13 18 depend on independent claim 1, Applicant respectfully directs the Office to the
14 foregoing discussion of Hamamatsu and the TPV-50 article.

15 With respect to Haldeman, the context in which "Windows Media" is
16 disclosed is relevant. Haldeman states:

17 One of the ways that the prior art has used to reduce video bandwidth is to
18 compress the video data before storing and distributing it on a network. Various
19 compression schemes and data formats can be used. For example, MPEG,
20 Windows Media, RealVideo, etc. can be used. Significant degradation or artifacts
can be introduced into the video data as a result of a poorly implemented
encoding process. These artifacts result in a lower-quality video/audio experience
for the end-user.

21 Haldeman at col. 1, line 36-44.

22 Thus, Haldeman makes no distinction between "Windows Media" and
23 MPEG. Applicant submits that such evidence is insufficient to sustain a prima
24 facie case of obviousness under §103 given the strict evidentiary standard (MPEP
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§2143.01; In re Lee, 61 USPQ2d 1430 (Fed. Cir. 2002)). In particular, given such information, Applicant submits that one of ordinary skill in the art would not find Haldeman useful in addressing short-comings of the MPEG-2 standard.

Further, the statement in Haldeman supports the evidence of the TPV-50 article. In particular, it recognizes that “[s]ignificant degradation or artifacts can be introduced into the video data as a result of a poorly implemented encoding process” and that “these artifacts result in a lower-quality video/audio experience for the end-user”. The TPV-50 article comments on such artifacts, especially for technologies that rely on MPEG-2.

Claim 72

The Office rejected claim 72 based on Tarnoff in view of Zdepski, further in view of Hamamatsu and further in view of Melen. Claim 72 depends on independent claim 50. Applicant submits that claim 50 is patentable over Tarnoff, Zdepski and Hamamatsu and that Melen does not disclose that which is lacking in Tarnoff, Zdepski and Hamamatsu. Consequently, Applicant submits that claim 72 is patenable over the combination of Tarnoff, Zdepski, Hamamatsu and Melen.

Conclusion

Pending claims 1-33, 35-39, 50-62, 64-70, 72-73, 79 and 80 are believed in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the subject application. If any issues remain that prevent issuance of this application, the Office is urged to contact the undersigned attorney before issuing a subsequent Action.

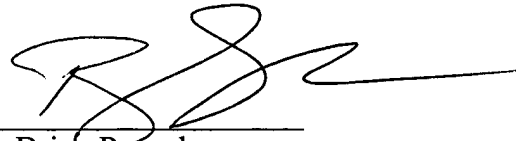
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Respectfully Submitted,

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